

[4910-13-P]

#### DEPARTMENT OF TRANSPORTATION

**Federal Aviation Administration** 

**14 CFR Part 39** 

[Docket No. FAA-2019-0989; Product Identifier 2019-NM-097-AD]

RIN 2120-AA64

**Airworthiness Directives;** The Boeing Company Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directives (ADs) 2015-14-07, 2016-07-10, and 2016-24-09, which apply to The Boeing Company Model 787-8 and 787-9 airplanes. ADs 2015-14-07, 2016-07-10, and 2016-24-09 require actions related to certain flight control module (FCM) software. Since the FAA issued these ADs, the agency has received reports of unannunciated dual symmetric inboard slat skew and deficiencies in the FCM software. This proposed AD would also require installing flight control electronics (FCE) common block point 5 (CBP5) software, which would terminate the existing requirements. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to https://www.regulations.gov. Follow the instructions for submitting comments.
  - Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West
   Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC
   20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m.,
   Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet https://www.myboeingfleet.com. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0989.

# **Examining the AD Docket**

You may examine the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0989; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Maureen G. Fallon, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3690; email: maureen.g.fallon@faa.gov.

#### **SUPPLEMENTARY INFORMATION:**

## **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2019-0989; Product Identifier 2019-NM-097-AD" at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposed AD.

#### Discussion

The FAA issued three ADs to address certain deficiencies in the FCM software that, if not corrected, could prevent continued safe flight and landing.

AD 2015-14-07, Amendment 39-18205 (80 FR 42014, July 16, 2015) ("AD 2015-14-07"), applies to certain Model 787-8 airplanes. AD 2015-14-07 requires installing certain FCM software, and resulted from reports of deficiencies in the FCM software.

AD 2016-07-10, Amendment 39-18455 (81 FR 18741, April 1, 2016) ("AD 2016-07-10"), applies to all Model 787-8 and 787-9 airplanes. AD 2016-07-10 requires revising the airplane flight manual (AFM) to instruct the flightcrew to avoid abrupt flight control inputs in response to sudden drops in airspeed, and to reinforce the need to disconnect the autopilot before making any manual flight control inputs. AD 2016-07-10 resulted from reports indicating that in certain weather conditions with high moisture content or possible icing, erroneous low airspeed may be displayed to the flightcrew before detection and annunciation via engine indicating and crew-alerting system (EICAS) messages.

AD 2016-24-09, Amendment 39-18726 (81 FR 86912, December 2, 2016) ("AD 2016-24-09"), applies to all Model 787-8 and 787-9 airplanes. AD 2016-24-09 requires repetitive cycling of either the airplane electrical power or the power to the three FCMs, and resulted from a report indicating that all three FCMs might simultaneously reset if continuously powered on for 22 days.

#### Actions Since ADs 2015-14-07, 2016-07-10, and 2016-24-09 Were Issued

The preambles to AD 2016-07-10 and AD 2016-24-09 explained that the FAA considered the requirements "interim action" and were considering further rulemaking. The FAA has now determined that further rulemaking is indeed necessary, and this proposed AD follows from that determination.

Since the FAA issued ADs 2015-14-07, 2016-07-10, and 2016-24-09, the agency has received reports of unannunciated dual symmetric inboard slat skew and deficiencies in the FCM software. An unannunciated dual symmetric inboard slat skew can result in adverse handling characteristics of the airplane.

#### **Related Service Information under 1 CFR part 51**

The FAA reviewed Boeing Service Bulletin B787-81205-SB270039-00, Issue 002, dated March 8, 2018. This service information describes procedures for installing FCM loadable diagnostic information (LDI) database (DB) and central maintenance computer function (CMCF) LDI DB software.

The FAA also reviewed Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018. This service information describes procedures for installing FCE CBP5 software, and applicable concurrent requirements (installing certain software).

The FAA also reviewed Boeing Service Bulletin B787-81205-SB310014, Issue 002, dated June 14, 2017. This service information describes procedures for installing new displays and crew alerting (DCA) system and maintenance system (MS) software and doing a software check.

This proposed AD would also require Boeing Alert Service Bulletin B787-81205-SB270017-00, Issue 001, dated September 18, 2013; Boeing Alert Service Bulletin B787-81205-SB270020-00, Issue 002, dated February 12, 2015; and Boeing Service Bulletin B787-81205-SB270023-00, Issue 001, dated July 24, 2014; which the Director of the Federal Register approved for incorporation by reference as of August 20, 2015 (80 FR 42017, July 16, 2015).

This proposed AD would also require Boeing Alert Service Bulletin B787-81205-SB270040-00, Issue 001, dated November 25, 2016, which the Director of the Federal Register approved for incorporation by reference as of December 2, 2016 (81 FR 86912, December 2, 2016).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### FAA's Determination

The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would retain all of the requirements of AD 2016-07-10 and AD 2016-24-09. This proposed AD would retain all of the requirements of AD 2015-14-07, except paragraph (g)(3) of AD 2015-14-07 (installation of FCM Common Block Point 1 software), which was erroneously included in AD 2015-14-07 and is therefore no longer necessary. The service information specified in paragraph (g)(3) of AD 2015-14-07 applies only to Model 787-9 airplanes. This proposed AD would also require accomplishing the actions specified in the service information described previously, except as discussed under "Difference Between this Proposed AD and the Service Information," and except for any differences identified as exceptions in the regulatory text of this proposed AD. The new proposed requirements would terminate all of the retained requirements.

For information on the procedures and compliance times, see this service information at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0989.

#### Difference Between this Proposed AD and the Service Information

Although Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018, recommends accomplishing the software installation within 12 months, the FAA has determined that this interval would not address the identified unsafe condition soon enough to ensure an adequate level of safety for the affected fleet. In developing an appropriate compliance time for this AD, the FAA considered the manufacturer's recommendation, the degree of urgency associated with the subject unsafe condition, and the average utilization of the affected fleet. In light of these factors, the FAA finds that a 6-month compliance time represents an appropriate interval of time for affected airplanes to continue to operate without compromising safety. This difference has been coordinated with Boeing.

# **Other Relevant Rulemaking**

The concurrent requirements specified in this proposed AD are also concurrent requirements for the actions required by AD 2019-08-05, Amendment 39-19626 (84 FR 18707, May 2, 2019) ("AD 2019-08-05"), as specified in paragraph (g)(2) of AD 2019-08-05.

## **Explanation of Requirements Bulletin**

The FAA worked in conjunction with industry, under the Airworthiness Directive Implementation Aviation Rulemaking Committee (AD ARC), to enhance the AD system. One enhancement is a process for annotating which steps in the service information are "required for compliance" (RC) with an AD. Boeing has implemented this RC concept into Boeing service bulletins.

In an effort to further improve the quality of ADs and AD-related Boeing service information, a joint process improvement initiative was worked between the FAA and Boeing. The initiative resulted in the development of a new process in which the service information more clearly identifies the actions needed to address the unsafe condition in the "Accomplishment Instructions." The new process results in a Boeing Requirements Bulletin, which contains only the actions needed to address the unsafe condition (i.e., only the RC actions).

## **Costs of Compliance**

The FAA estimates that this proposed AD affects 78 airplanes of U.S. registry.

The compliance time has passed for the retained requirements in this proposed AD, so all affected airplanes should already be in compliance with those requirements. Therefore, this AD imposes no additional financial burden on any U.S. operator.

However, if a noncompliant airplane is imported and placed on the U.S. Register in the future, the FAA estimates the following costs to comply with the retained actions:

**Estimated Costs for Retained Requirements** 

Action	Labor cost	Parts cost	Cost per product
Retained requirements of AD 2015-14-07 (11 airplanes)	4 work-hours X \$85 per hour = \$340	\$0	\$340
Retained requirements of AD 2016-07-10	1 work-hour X \$85 per hour = \$85	\$0	\$85
Retained requirements of AD 2016-24-09	1 work-hour X \$85 per hour = \$85 per cycle	\$0	\$85

The FAA estimates the following costs to comply with the new requirements in this proposed AD:

# **Estimated Costs for New Requirements**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
New proposed software installation	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$13,260

# **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

# **Regulatory Findings**

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

# List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

# **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

# PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

## § 39.13 [Amended]

- 2. The FAA amends § 39.13 by:
- a. Removing Airworthiness Directive (AD) 2015-14-07, Amendment 39-18205 (80 FR 42014, July 16, 2015); AD 2016-07-10, Amendment 39-18455 (81 FR 18741,

April 1, 2016); and AD 2016-24-09, Amendment 39-18726 (81 FR 86912, December 2, 2016); and

b. Adding the following new AD:

**The Boeing Company:** Docket No. FAA-2019-0989; Product Identifier 2019-NM-097-AD.

# (a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

## (b) Affected ADs

This AD replaces the ADs identified in paragraphs (b)(1) through (3) of this AD.

- (1) AD 2015-14-07, Amendment 39-18205 (80 FR 42014, July 16, 2015) ("AD 2015-14-07").
- (2) AD 2016-07-10, Amendment 39-18455 (81 FR 18741, April 1, 2016) ("AD 2016-07-10").
- (3) AD 2016-24-09, Amendment 39-18726 (81 FR 86912, December 2, 2016) ("AD 2016-24-09").

# (c) Applicability

This AD applies to all The Boeing Company Model 787-8 and 787-9 airplanes, certificated in any category.

# (d) Subject

Air Transport Association (ATA) of America Code 27, Flight Controls.

# (e) Unsafe Condition

This AD was prompted by reports of deficiencies in the flight control module (FCM) software and unannunciated dual symmetric inboard slat skew. The FAA is issuing this AD to address deficiencies in the FCM software that could prevent continued safe flight and landing, and to address potential unannunciated dual symmetric inboard slat skew, which can result in adverse handling characteristics of the aircraft.

#### (f) Compliance

Comply with this AD within the compliance times specified, unless already done.

# (g) Retained FCM Software Installation Requirement of AD 2015-14-07, with No Changes

This paragraph restates the requirements of the introductory text to paragraph (g) and paragraphs (g)(1), (2), and (4) of AD 2015-14-07 (paragraph (g)(3) of AD 2015-14-07 is not retained in this AD), with no changes. For Model 787-8 airplanes identified in Boeing Alert Service Bulletin B787-81205-SB270020-00, Issue 002, dated February 12, 2015: Within 6 months after August 20, 2015 (the effective date of AD 2015-14-07), do one of the actions specified in paragraphs (g)(1) through (3) of this AD.

- (1) Use the onboard data load function (ODLF) to install FCM Block Point 3 software (including FCM operational program software (OPS), FCM loadable diagnostic information (LDI) database (DB) software, and FCM air data reference function (ADRF) DB software), in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270020-00, Issue 002, dated February 12, 2015.
- (2) Use the ODLF to install FCM Block Point 4 software (including FCM OPS, FCM LDI DB software, FCM ADRF DB software, and central maintenance computer function (CMCF) LDI DB software), in accordance with the Accomplishment

Instructions of Boeing Service Bulletin B787-81205-SB270023-00, Issue 001, dated July 24, 2014.

(3) Install any later FAA-approved FCM software version using a method approved in accordance with the procedures specified in paragraph (r) of this AD.

# (h) Retained Concurrent Requirements of AD 2015-14-07, with No Changes

This paragraph restates the requirements of paragraph (h) of AD 2015-14-07, with no changes. For Group 1 airplanes, as identified in Boeing Alert Service Bulletin B787-81205-SB270020-00, Issue 002, dated February 12, 2015: Prior to or concurrently with accomplishing the actions required by paragraph (g) of this AD, use the ODLF to install FCM OPS, FCM LDI DB, and CMCF LDI DB software, or at a minimum install the FCM LDI DB and CMCF LDI DB software, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270017-00, Issue 001, dated September 18, 2013.

## (i) Retained Parts Installation Prohibition of AD 2015-14-07, with No Changes

This paragraph restates the provisions of paragraph (i) of AD 2015-14-07 with no changes. After installation of the software specified in paragraphs (g) and (h) of this AD, no person may install any previous versions of the FCM OPS, FCM LDI DB, FCM ADRF DB, or CMCF LDI DB software on any airplane.

# (j) Retained Credit for Certain Previous Actions in AD 2015-14-07, with No Changes

This paragraph restates the provisions of paragraph (j) of AD 2015-14-07, with no changes. This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before August 20, 2015 (the effective date of AD

2015-14-07), using Boeing Alert Service Bulletin B787-81205-SB270020-00, Issue 001, dated February 6, 2014.

# (k) Retained Airplane Flight Manual (AFM) Revision of AD 2016-07-10, with No Changes

This paragraph restates the requirements of paragraph (g) of AD 2016-07-10, with no changes. Within 15 days after April 14, 2016 (the effective date of AD 2016-07-10), revise the applicable existing Boeing 787 AFM to add a "Non-normal Procedure" that includes the information in figure 1 to paragraph (k) of this AD. This may be done by inserting a copy of this AD into the existing AFM.

# Figure 1 to paragraph (k)

#### Airspeed Drop

In the event of a sudden, unrealistic drop in indicated airspeed, do not apply large, abrupt control column inputs. Fly the airplane with normal pitch and power settings. If manual flight is needed, disconnect the autopilot prior to making manual flight control inputs.

#### (1) Retained FCM Reset Requirement of AD 2016-24-09, with No Changes

This paragraph restates the requirements of paragraph (g) of AD 2016-24-09, with no changes. Within 7 days after December 2, 2016 (the effective date of AD 2016-24-09), do the actions specified in paragraph (l)(1) or (2) of this AD. Repeat the action specified in paragraph (l)(1) or (2) of this AD thereafter at intervals not to exceed 21 days.

(1) Cycle the airplane electrical power, in accordance with "Option 1" of the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270040-00, Issue 001, dated November 25, 2016.

(2) Cycle power to the left, center, and right FCMs, in accordance with "Option 2" of the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270040-00, Issue 001, dated November 25, 2016.

#### (m) Retained Credit for Previous Actions in AD 2016-24-09, with No Changes

This paragraph restates the provisions of paragraph (h) of AD 2016-24-09, with no changes. This paragraph provides credit for the actions specified in paragraphs (l)(1) and (2) of this AD, if those actions were performed before December 2, 2016 (the effective date of AD 2016-24-09) using one of the service information documents specified in paragraphs (m)(1) through (3) of this AD.

- (1) Boeing Multi-Operator Message MOM-MOM-16-0711-01B, dated October 21, 2016.
- (2) Boeing Multi-Operator Message MOM-MOM-16-0711-01B(R1), dated November 17, 2016.
- (3) Boeing Multi-Operator Message MOM-MOM-16-0711-01B(R2), dated November 17, 2016.

#### (n) New Required Software Installation

For airplanes identified in Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018: Do the actions specified in paragraphs (n)(1) through (3) of this AD, and, if applicable, do the actions specified in paragraph (n)(4) of this AD.

(1) Within 6 months after the effective date of this AD: Do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert

Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018.

Note 1 to paragraphs (n)(1) and (o)(1): Guidance for accomplishing the actions required by paragraphs (n)(1) and (o)(1) of this AD can be found in Boeing Alert Service Bulletin B787-81205-SB270044-00, Issue 001, dated December 18, 2018, which is referred to in Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018.

(2) Before or concurrently with accomplishment of the actions specified in paragraph (n)(1) of this AD: Install FCM LDI DB and CMCF LDI DB software, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB270039-00, Issue 002, dated March 8, 2018.

Note 2 to paragraph (n)(2): The concurrent requirements specified in paragraph (n)(2) of this AD are also concurrent requirements for the actions required by paragraph (g)(2) of AD 2019-08-05, Amendment 39-19626 (84 FR 18707, May 2, 2019) ("AD 2019-08-05").

- (3) Within 6 months after the effective date of this AD: Identify the version of the displays and crew alerting (DCA) system and maintenance system (MS) software installed. If the installed version is not DCA MS CBP4 or a later-approved version of DCA MS software, do the actions specified in paragraph (n)(4) of this AD.
- (4) Install a new DCA system and MS software and do a software check, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB310014, Issue 002, dated June 14, 2017.

#### (o) Software Version Identification

For airplanes not identified in Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018, that have an original airworthiness certificate or original export certificate of airworthiness issued on or before the effective date of this AD: Within 6 months after the effective date of this AD, do the actions specified in paragraphs (o)(1) and (2) of this AD.

- (1) Identify the version of the flight control electronics (FCE) common block point (CBP) software installed. If the installed version is not CBP5 or later approved version: Within 6 months after the effective date of this AD, install CBP5 or later approved version, in accordance with the Accomplishment Instructions of Boeing Alert Requirements Bulletin B787-81205-SB270044-00 RB, Issue 001, dated December 18, 2018. A review of airplane maintenance records is acceptable in lieu of this identification requirement, if the software version can be conclusively determined from that review.
- (2) Identify the version of the DCA system and MS software installed. If the installed version is not DCA MS CBP4 or a later-approved version of DCA MS software: Within 6 months after the effective date of this AD, install a new DCA system and MS software and do a software check, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB310014, Issue 002, dated June 14, 2017.

#### (p) Terminating Action for Certain Requirements of this AD

(1) Except as specified in paragraph (p)(2) of this AD: Accomplishment of the actions required by paragraph (n) or (o) of this AD, as applicable, terminates the requirements of paragraphs (g) through (m) of this AD.

- (2) Accomplishment of the actions required by paragraph (n) or (o) of this AD, as applicable, terminates the requirements of paragraph (k) of this AD for that airplane only.
- (3) After the actions required by paragraph (n) or (o) of this AD have been accomplished on all affected airplanes in an operator's fleet, and within 6 months after the effective date of this AD, figure 1 to paragraph (k) of this AD must be removed from the existing AFM for the fleet.

# (q) Parts Installation Prohibition

As of the effective date of this AD, installation on any airplane of FCE CBP software with a version previous to CBP5 is prohibited.

# (r) Alternative Methods of Compliance (AMOCs)

- (1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (s)(1) of this AD. Information may be emailed to:
- 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.
- (2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.
- (3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company ODA that has been authorized by the Manager, Seattle ACO Branch, FAA, to

make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2015-14-07, AD 2016-07-10, andAD 2016-24-09, are approved as AMOCs for the corresponding provisions of paragraphs(g) through (l) of this AD.

## (s) Related Information

- (1) For more information about this AD, contact Maureen G. Fallon, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3690; email: maureen.g.fallon@faa.gov.
- (2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet https://www.myboeingfleet.com. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

  Issued in Des Moines, Washington, on December 17, 2019.

Michael Kaszycki, Acting Director, System Oversight Division, Aircraft Certification Service.

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